Please amend the present application as follows:

In the Claims

Please substitute the following clean copy text for the pending claims of the same number, and cancel claims 17-18 without prejudice, waiver, or disclaimer.

1. (Once amended) A vertical cavity surface emitting laser, comprising:

an optical cavity, including:

a first non-concave reflector positioned at a first end of the optical cavity, the reflector being configured to focus light that reflects off the reflector back in an opposite direction to avoid diffraction losses from the optical cavity; and

a second non-concave reflector positioned at a second end of the optical cavity that receives and reflects light reflected from the first non-concave reflector.

2. (Once amended) The laser of claim 1, wherein the first non-concave reflector includes an outer layer of material that has a thickness that varies as a function of radial distance out from an axial center of the outer layer.

3. (Once amended) The laser of claim 2, wherein the outer layer includes a substantially convex, semispherical outer surface and a substantially planar inner surface.

4. (Once amended) The laser of claim 1, wherein the first non-concave reflector includes an outer layer of material that has an index of refraction that varies as a function of radial distance out from an axial center of the outer layer.

5. (Once amended) The laser of claim 4, wherein the outer layer is substantially planar.

6. (Once amended) The laser of claim 1, wherein the reflectors include a plurality of material layers oriented in a stacked arrangement.

7. (Once amended) The laser of claim 6, wherein the material layers have different indices of refraction than adjacent material layers.

8. (Once amended) The laser of claim 6, wherein the material layers have quarter wave optical thicknesses.

9. (Once amended) A vertical cavity surface emitting laser, comprising:

an optical cavity, including:

first non-concave means for reflecting light at a first end of the optical cavity, the first non-concave means for reflecting light including means for focusing the light entering and exiting the first non-concave means so that diffraction losses from the optical cavity are reduced; and

second non-concave means for reflecting light at a second end of the optical cavity that receives and reflects light reflected from the first non-concave means for reflecting light.

10. (Once amended) The laser of claim 9, wherein the first non-concave means for reflecting light includes an outer layer of material that has a thickness that varies as a function of radial distance out from an axial center of the outer layer.

11. (Once amended) The laser of claim 10, wherein the outer layer includes a substantially convex, semispherical outer surface and a substantially planar inner surface.

12. (Once amended) The laser of claim 9, wherein the first non-concave means for reflecting light includes an outer layer of material that has an index of refraction that varies as a function of radial distance out from an axial center of the outer layer.

13. (Once amended) The laser of claim 12, wherein the outer layer is substantially planar.

14. (Once amended) The laser of claim 9, wherein the means for reflecting light at the first and second ends of the cavity include a plurality of material layers oriented in a stacked arrangement.

15. (Once amended) The laser of claim 14, wherein the material layers have different indices of refraction than adjacent material layers.

16. (Once amended) The laser of claim 14, wherein the material layers have quarter wave optical thicknesses.

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19. (Once amended) A vertical cavity surface emitting laser, comprising:

an optical cavity, including:

a first reflector positioned at a first end of the optical cavity, the first reflector including a layer of material that has an index of refraction that varies as a function of

radial distance out from an axial center of the layer such that the first reflector is configured to focus light that reflects off the first reflector to avoid diffraction losses from the optical cavity; and

a second reflector positioned at a second end of the optical cavity that receives and reflects light reflected from the first reflector.

20. (Once amended) The laser of claim 20, wherein the outer layer is substantially planar.

21. (Once amended) A method for manipulating light in a vertical cavity surface emitting laser, comprising:

reflecting light between two reflectors of an optical cavity of the laser; and

focusing the light with a layer of material having a thickness that varies as a function of radial distance out from an axial center of the layer to reduce diffraction losses.

22. (Once amended) A method for manipulating light in a vertical cavity surface emitting laser, comprising:

reflecting light between two reflectors of an optical cavity of the laser; and

focusing the light with a layer of material having an index of refraction that varies as a function of radial distance out from an axial center of the layer to reduce diffraction losses.

Please add the following ***new*** claims:

23. (Newly added) The laser of claim 1, further comprising a semiconductor substrate upon which the laser is formed, the optical cavity being positioned perpendicular to

the semiconductor substrate; and

wherein the laser emits light in a direction perpendicular to the semiconductor substrate.

24. (Newly added) A vertical semiconductor optical filter, comprising:

a first non-concave reflector positioned at a first end of the optical cavity, the reflector being configured to focus light that reflects off the reflector back in an opposite direction to avoid diffraction losses from the optical cavity; and

a second non-concave reflector positioned at a second end of the optical cavity that receives and reflects light reflected from the first non-concave reflector.

25. (Newly added) The optical filter of claim 24, wherein the first non-concave reflector includes an outer layer of material that has a thickness that varies as a function of radial distance out from an axial center of the outer layer.

26. (Newly added) The optical filter of claim 25, wherein the outer layer includes a substantially convex, semispherical outer surface and a substantially planar inner surface.

27. (Newly added) The optical filter of claim 24, wherein the first non-concave reflector includes an outer layer of material that has an index of refraction that varies as a function of radial distance out from an axial center of the outer layer.

28. (Newly added) The optical filter of claim 27, wherein the outer layer is substantially planar.

29. (Newly added) The optical filter of claim 24, wherein the reflectors include a plurality of material layers oriented in a stacked arrangement.

30. (Newly added) The optical filter of claim 29, wherein the material layers have different indices of refraction than adjacent material layers.

31. (Newly added) The optical filter of claim 29, wherein the material layers have quarter wave optical thicknesses.

32. (Newly added) The optical filter of claim 24, further comprising a semiconductor substrate upon which the laser is formed, the optical cavity being positioned perpendicular to the semiconductor substrate; and

wherein light enters the optical filter in a direction perpendicular to the semiconductor substrate.

33. (Newly added) A vertical semiconductor optical filter, comprising:

first non-concave means for reflecting light at a first end of the optical cavity, the first non-concave means for reflecting light including means for focusing the light entering and exiting the first non-concave means so that diffraction losses from the optical cavity are reduced; and

second non-concave means for reflecting light at a second end of the optical cavity that receives and reflects light reflected from the first non-concave means for reflecting light.

34. (Newly added) The optical filter of claim 33, wherein the first non-concave means for reflecting light includes an outer layer of material that has a thickness that varies as

a function of radial distance out from an axial center of the outer layer.

35. (Newly added) The optical filter of claim 34, wherein the outer layer includes a substantially convex, semispherical outer surface and a substantially planar inner surface.

36. (Newly added) The optical filter of claim 33, wherein the first non-concave means for reflecting light includes an outer layer of material that has an index of refraction that varies as a function of radial distance out from an axial center of the outer layer.

37. (Newly added) The optical filter of claim 36, wherein the outer layer is substantially planar.

38. (Newly added) The optical filter of claim 33, wherein the means for reflecting light at the first and second ends of the cavity include a plurality of material layers oriented in a stacked arrangement.

39. (Newly added) The optical filter of claim 38, wherein the material layers have different indices of refraction than adjacent material layers.

40. (Newly added) The optical filter of claim 38, wherein the material layers have quarter wave optical thicknesses.

41. (Newly added) A method for manipulating light in a vertical semiconductor optical filter, comprising:

reflecting light between two reflectors of an optical cavity of the optical filter; and

focusing the light with a layer of material having a thickness that varies as a function of radial distance out from an axial center of the layer to reduce diffraction losses.